International Journal of Sports Marketing and Sponsorship

Scoring big – how sports video game features drive virtual ownership, willingness to pay and soccer participation

Joern Schlimm
Institute of Sport Economics and Sport Management, German Sport University Cologne, Cologne, Germany
Sebastiano Mereu
Sports Business Research Academy, Zurich, Switzerland, and
Christoph Breuer
Institute of Sport Economics and Sport Management, German Sport University Cologne, Cologne, Germany

Received 21 June 2024
Revised 29 August 2024
18 October 2024
11 November 2024
Accepted 11 November 2024

Abstract

Purpose – Sports organizations have a strategic interest in utilizing video games as a means to generate commercial opportunities and increase participation in their respective sports. This study aims to investigate the specific features of sports video games (SVGs) that may significantly influence gamers' desire to own virtual items, their Willingness to Pay (W2P) for these items and their participation in real-life soccer activities. The research also considers generational cohorts, and the amount of time gamers spend playing video games, offering a preliminary analysis of potential differences among various demographic groups and gamer types. Conducted in collaboration with the Fédération Internationale de Football Association (FIFA), the practical implications of this research aim to provide FIFA and other sports organizations with a foundational basis for the selection and collaborative development of SVGs.

Design/methodology/approach – To the best of the authors' knowledge, this is the first attempt to determine the impact of concrete SVG features on consumers' Ownership, W2P and Participation. Hence, a new survey construct needed to be developed based on an extensive review of scales that have been used by researchers to assess gamers' gratifications and motivations for playing video games. The new construct was tested and refined through exploratory factor analysis. This study subsequently uses structural equation modeling to explore the impact of various SVG features on Ownership, W2P and Participation.

Findings – The results of this study indicate that, from a commercial perspective, competition, collaboration and social interaction appeal to gamers and drive Ownership and W2P in SVGs. Additionally, discovery and exploration enhance the SVG experience further motivating gamers to spend on in-game content. Fantasy, Escape and Sport Context are critical determinants of soccer Participation, as they enable gamers to immerse themselves in a virtual environment that offers experiences unattainable in real life. These features can strengthen gamers' identification with soccer, making real-life Participation more appealing. Competing, Socializing and Relationship features also boost Participation by fostering a feeling of community and social interaction, encouraging gamers to seek similar real-world experiences. The findings of this study indicate that a universal approach may be ineffective, as various target audiences are motivated to engage in commercial transactions or participate in soccer based on different SVG features. Consequently, it is essential for sports organizations to segment their target audience and strategically develop SVGs that cater to the distinct needs of each group.

Research limitations/implications – Future research should aim to draw more representative samples by including a broader range of demographics, income levels and geographic locations. This would ensure that findings are generalizable across different segments of the population. The study also offers first insights into the preferences of different types of gamers according to their age group and time spent playing. However, additional research is needed to determine the preferences of additional types of gamers, for instance, by creating dedicated gamer marketing personas based on parameters like frequency of play, length of an individual gaming session, number of games owned, etc.

Practical implications – For sports organizations like FIFA, focusing on SVGs with multiplayer experiences, social features and competitive gameplay is crucial. Monetization strategies should capitalize on gamers' desire to stand out and succeed in social and competitive contexts. With the additional focus on the discovery of rare items, sports organizations should integrate scarcity, exclusivity and discovery mechanics into their video games. The combination of social competition and the thrill of discovering rare items can drive higher

International Journal of Sports Marketing and Sponsorship

e-ISSN: 2515-7841
p-ISSN: 1464-6668
DOI 10.1108/IJSMS-06-2024-0135

engagement, loyalty and revenue. To inspire greater Participation in real-life soccer, sports organizations like FIFA should strategically select or develop video games that harness the power of immersion into a virtual sports environment by incorporating "Fantasy", "Escape" and "Sport Context" features into SVGs. By creating immersive experiences that encourage gamers to connect with the sport on a deeper level, SVGs can effectively drive real-life soccer engagement.

Originality/value – To the best of the authors' knowledge, this is the first time a study explores the concrete features of SVGs that may have a significant impact on gamers' desire to own virtual items (Ownership), on consumers' W2P for these items and on Participation in real-life soccer activities. Unlike previous research, which has predominantly concentrated on video games in general or specifically on the sports simulation game subcategory within SVGs, this study adopts a broader perspective by considering all types of sports-themed video games.

Keywords Sport, Soccer, Sports video games, SVGs, Gaming, Sports industry

Paper type Research paper

Introduction

Sports organizations have a vested interest in leveraging sports video games (SVGs) to create commercial opportunities and enhance real-life Participation in their sport. Sports organizations typically have a strong interest in maintaining a positive, family-friendly image and SVGs often align closely with their core values, such as teamwork, collaboration and physical fitness. In contrast, other genres such as shooting games, may have violent content (Egenfeldt-Nielsen *et al*., 2024), which may not align with the values or brand image of many sports organizations. Additionally, SVGs are a natural extension of the sports themselves, which may help deepen fan engagement and Participation in physical activity. This study therefore focuses on sports-themed video games and examines the concrete features of SVGs, sometimes referred to as "attributes" (Guo and Barnes, 2012), that may influence gamers' desire to own virtual items, their Willingness to Pay (W2P) for these items and their Participation in soccer-related activities. The study was conducted in collaboration with the Fédération Internationale de Football Association (FIFA), with the practical implications intended to offer FIFA a foundation for selecting and collaboratively developing SVGs with relevant features. Given FIFA's role as the global governing body for soccer, the study places a particular emphasis on promoting physical Participation in soccer.

SVGs command significant global popularity, boasting an annual market size estimated at 21.32 billion US dollars. In the Asia–Pacific region alone, these games accrued approximately 10.59 billion US dollars in revenue during 2023, positioning it as the leading market. Following closely behind, North America secured the second position with an annual revenue of 6.17 billion US dollars. Notably, EA Sports FC, formerly recognized as the "FIFA series", stands out as one of the foremost franchises within the sports gaming domain, introducing a fresh installment on an annual basis during the autumn season (Clement, 2024).

The popularity of SVGs offers sports organizations commercial opportunities driven by consumer spending as in-game purchases have become a significant revenue stream. Gamers are often willing to spend on microtransactions to enhance their gaming experience, whether through acquiring virtual currency, unlocking special features or purchasing exclusive content like player packs, custom uniforms and stadium upgrades. Seasonal events, special editions and limited time offer further incentivize spending by creating a sense of urgency and exclusivity. This ongoing consumer spending extends the financial life of a game well beyond its initial purchase, making it a highly lucrative model for the gaming industry. In-game purchases are even more important under the free-to-play model, where the foundational game is provided to users at no cost, strategically aimed at maximizing user acquisition (Egenfeldt-Nielsen *et al*., 2024). Despite the rising popularity of SVGs, there is a notable gap in the research concerning the specific features of SVGs that influence gamers' desire to own and pay for digital items. This study will therefore seek to answer the following research questions: How do SVG features impact the significance of owning virtual items from a consumer standpoint ("Ownership")? How do SVG features impact consumers' W2P for these items?

Another motivation for sports organizations to promote SVGs is their goal of encouraging real-life Participation in their respective sports (Crawford, 2012), in FIFA's case, the Participation in soccer. However, existing research has not yet identified the specific attributes of SVGs that may foster engagement in corresponding physical activities. This study aims to address this gap in the literature by investigating the following research question: How do SVG features impact Participation in soccer?

Background and hypotheses

Definition of SVGs in the literature

Over the years, extensive research has been conducted to assess the phenomenon of video games from different angles. However, Crawford (2012) argues that the definition of "games" and "video games" in particular is rather "problematic" and has "led some scholars to advocate the development of a discipline of 'game studies'" (p. 14) which should incorporate the study of video games along with other types of games. Despite the ongoing discussions among scholars, this study refers to the simple definition suggested by Esposito (2005): "A *videogame* is a *game* which we *play* thanks to an *audiovisual apparatus* and which can be based on a *story*" (p. 2). In line with some previous research, this study uses the term "gamer" as opposed to "player" to make a distinction between a person playing a video game and characters in SVGs which are frequently referred to as "players", for instance, a "soccer player" within an SVG (Crawford, 2012). Despite the lack of universally accepted definitions in the literature, the terms "hardcore gamer" and "casual gamer" are used in this study to provide a simplified distinction between gamers who spend a considerable amount of their time playing video games and gamers who dedicate less time per day playing an SVGs and play less frequently (see, for example, Ip *et al*., 2008; Kapalo *et al*., 2015; Manero *et al*., 2016).

There is a notable lack of consensus in academia concerning the taxonomy of video games, leading to the proposal of various genres or classifications (see, for instance, Egenfeldt-Nielsen *et al*., 2024; Lucas and Sherry, 2004; Scharkow *et al*., 2015). Clarke *et al*. (2017) argue that related to video games "genres fail on a practical level because they do not adequately identify, collocate and support retrieval of games for interested users" (p. 3). Nevertheless, SVGs have been identified by numerous researchers as a category of video games (see, for instance, Cianfrone *et al*., 2011; Clarke *et al*., 2017; Kim and Ross, 2006; Lucas and Sherry, 2004; Scharkow *et al*., 2015) even though most of the previous work primarily refers to sport *simulation* games "modelling real-life sports" (Kim and Ross, 2006, p. 29) when talking about SVGs. For example, Cianfrone *et al*. (2011) state that "SVGs aim for authenticity and visual appearance, which is analogous to broadcasts of televised sports" (p. 175). Later studies by Crawford *et al*. (2019), however, point out that SVGs "are best understood, not as sports in themselves or as a simulation of a sport, but rather as sports 'themed'" (p. 940). This perspective does not only encompass SVGs imitating a certain sport but also video games translating "aspects of the meaning of real-life sport into a videogame format" (Crawford *et al*., 2019, p. 941) including sports-themed video games offering exaggerated physics, simplified controls and fantastical elements. In line with Crawford *et al*.'s (2019) definition, this study considers the following types of sports-themed video games when referring to SVGs.

Sport simulation games

Sport simulation games aim to realistically replicate the rules, gameplay and strategies of a particular sport (see, for instance, Kim and Ross, 2006). They feature realistic graphics, player and team statistics and various game modes such as career mode, franchise mode and online multiplayer. In addition to the EA Sports FC series, The National Hockey League (NHL) and The National Football League (NFL) each have their own simulation games, the NHL series and Madden NFL, published by EA Sports. NBA 2K is a series of basketball simulation video

games developed by Visual Concepts and released annually by publisher 2k. The series aims to replicate the sport of basketball, particularly focusing on the National Basketball Association (https://www.2k.com/en-US/game/nba-2k24/).

Other categories of SVGs

In addition to the popular sports simulation games, sports organizations have experimented with various other video game categories in order to appeal to their target groups. The following categories are not clearly demarcated in the literature and may overlap (Egenfeldt-Nielsen *et al*., 2024). Lucas and Sherry (2004) for instance, identified 13 video game genres including racing, simulation and fantasy with sports games being a separate category. Other authors specifically research fantasy sports as an entirely separate genre within SVGs (Billings and Ruihley, 2014; Stein *et al*., 2012). Kayali and Purgathofer (2008) divided SVGs into extreme sports, fun sports, sports simulation, team sports simulation and deep sports simulation games and Kretschmann (2010) suggests the genres of sport simulation games, sports management games and sports arcade games. According to Kretschmann (2010), sports arcade games prioritize fun, fast-paced gameplay over realism aim to reduce "the real sports complexity" (p. 69). The term "arcade game" originally refers to video games designed to emulate the experience of playing games in a game center, characterized by fast-paced and addictive gameplay. A successful arcade game typically follows the classic formula of being "easy to learn, difficult to master" (Gao *et al*., 2022, p. 1). Examples are NBA Jam, NFL Blitz and Mario Kart (Danish, 2024). In sports management or fantasy sports games, gamers take on the role of a manager or coach of a sports team, making decisions about player trades, tactics and team management rather than directly controlling the athletes during gameplay. Examples include Football Manager, Out of the Park Baseball and Motorsport Manager (Stein *et al*., 2012). Fitness and exercise games combine sports and exercise, often using motion controls or peripherals like fitness trackers to encourage physical activity. They may include activities such as yoga, dancing and full-body workouts. Examples are Wii Fit, Zombies, Run! and Ring Fit Adventure (McConnon, 2020). Fighting sports games focus on combat sports such as boxing, mixed martial arts and wrestling. Gamers typically control individual fighters and engage in one-on-one or tag team matches. The history of fighting games reaches back to Sega's "Heavyweight Champ" released in 1976 and includes popular modern titles like Capcom's Street Fighter and the Mortal Combat series, originally published by Midway in 1992 (Johnson and Woodcock, 2017). Furthermore, there are a variety of sports-themed Web3 games and games set in virtual worlds of third parties, which have been trialed by organizations like FIFA, such as the fantasy league Web3 game "AI League" (https://fifaworldcupaileague.com/) or the soccer-themed virtual environment called "FIFA World" on the popular Roblox platform (https://www.roblox.com/games/9486506804/FIFA-WORLD?AssetId = 9486506804).

SVG features

There are games which are engaging and capture the attention of gamers for long periods of time, sometimes spanning centuries, such as chess (Shenk, 2007), poker and the contemporary trading card game Pokémon which are currently available in both physical and digital formats. It is not entirely clear, however, what makes certain games so compelling while many others fail. Hodent (2021) argues that, from a psychological perspective, the design and features of games trigger cognitive processes in gamers' brains impacting their motivation to play. In a study titled Time Loss Whilst Playing Video Games, Wood and Griffiths (2007) review "features of games that contribute toward how rewarding a player perceives the activity to be" (p. 142) and state that "little is known about why subjective time loss occurs whilst playing video games other than that it may relate to features of escape, immersion and arousal" (p. 143). Numerous other scholars have examined gamer motivations by applying different theoretical models. Richard Bartle, a pioneering developer of multiplayer computer games,

introduced a widely recognized typology of video gamers in his seminal paper *Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs*. Initially, Bartle drew from discussions among experienced gamers, proposing that gamers can be classified into four distinct types: Killers, Achievers, Socializers and Explorers. Each of these gamer types is motivated by different aspects of a video game (Bartle, 1996). More recent research has built on Bartle's work and focused on assessing gamers' gratifications and motivations. Scharkow *et al*. (2015) describe several "gaming-related gratifications" (p. 295) including exploration, fantasy, competence, teamplay, competition and social capital. The authors illustrate that "among the individual gratifications, exploration was the most important, whereas the fantasy gratification was less relevant" (p. 295). From a social perspective, playing in a team was the most important gratification sought in gaming (Scharkow *et al*., 2015), particularly in an online gaming environment (Wu *et al*., 2010). Yee (2007) summarized 10 "subcomponents" (p. 772) motivating consumers to participate in Massively-Multiplayer Online Role-Playing Games (MMORPGs), including socializing, relationship, teamwork, discovery, customization and escapism. Yee (2006) also points out that MMORPGs "are uniquely social environments" where "the relationships" users create "are comparable to their real-life relationships" (p. 35). Griffiths *et al*. (2004) selected the online game Everquest to conduct a case study and concluded that among the most "favorite features of online gaming" was socializing including getting together in groups and belonging to a virtual "guild" (p. 483). These observations by Griffiths *et al*. and Yee are in line with the findings of other researchers like Taylor and Taylor (2009) who concluded that "interpersonal factors (such as social communication and group cohesion) were the strongest motivators for game-playing" (p. 613). Recognizing different motivations helps game developers determine how "certain game mechanics may attract or deter certain player demographics" (Yee, 2007, p. 772). In other words, understanding how to address these motivations through corresponding game features may help sports organizations and their partners create video games catering to their preferences. Indeed, an analysis of consumer needs in the context of esports by Weiss and Schiele (2013) "shows that competition, challenge, and escapism" positively impact "playing competitive games" (p. 312). Specifically focusing on sport simulation games, Kim and Ross (2006) identified seven motivational dimensions labeled "knowledge application, identification with sport, fantasy, competition, entertainment, social interaction and diversion" (p. 28).

An overview of the existing scales reviewed is presented in Table 1.

Ownership and willingness to pay

From the perspective of video game developers or publishers, it is crucial to generate continuous revenue streams through the sale of diverse in-game assets and enhancements beyond the initial sale of a game. As a consequence, game developers are now focused not only on creating the highest quality game artistically but also on crafting it to incentivize users to make frequent purchases of in-game content (Hamari *et al*., 2017). Hamari *et al*. (2017) note that "virtual goods and other forms of in-game content have rapidly become one of the biggest forms of online consumption for gamers" (p. 538). Popular titles like EA FC, for example, need to be acquired first and gamers are subsequently offered the opportunity to purchase in-game items in the form of virtual soccer players via the publisher's online transfer market (EA SPORTS FC™ Transfer Market Access on Web and Companion Apps, 2024). In this concrete example, how does the game EA FC motivate gamers to spend their money to purchase and own virtual soccer players? What does this SVG do that others don't? Researchers have found that enjoyment of a video game influences consumers' "willingness to buy virtual goods" and that "continued use" of a game positively predicts "purchase intentions for virtual goods" (Hamari, 2015, p. 299) in free-to-play games. Guo and Barnes (2012) identified "key factors" that "influence in-world purchase behavior" in virtual worlds (p. 18). However, it remains unclear how exactly SVGs trigger consumers' intention to engage in commercial transactions.

Table 1. Review of existing scales

Focus	Author(s)	Theoretical background	Suggested constructs
Sport simulation games	Kim and Ross (2006)	Uses and gratifications	Competition Social interaction Diversion Entertainment Fantasy Knowledge application Identification with sport
MUDs* **multi-user dungeon, also known as a multi-user dimension or multi-user domain, is a multiplayer real-time virtual world*	Bartle (1996)	Typology of player types	Achievers (Achievement) Explorers (Exploration of the game) Socializers (Socializing with others) Killers (Imposition upon others)
MMORPGs* **Massively Multiplayer Online Role-Play Games*	Yee (2007)	Player motivations	Achievement *Advancement* Progress, Power, Accumulation, Status *Mechanics* Numbers, Optimization, Templating, Analysis *Competition* Challenging Others, Provocation, Domination Social *Socializing* Casual Chat, Helping Others, Making Friends *Relationship* Personal, Self-Disclosure, Find and Give Support *Teamwork* Collaboration, Groups, Group Achievements Immersion *Discovery* Exploration, Lore, Finding Hidden Things *Role-playing* STory Line, Character History, Roles, Fantasy *Customization* Appearances, Accessories, Style, Color Schemes *Escapism* Relax, Escape from RL, Avoid RL Problems
eSports	Weiss and Schiele (2013)	Uses and gratifications	*Competitive* Competition, Challenge *Hedonic* Escapism

(*continued*)

Table 1. Continued

Focus	Author(s)	Theoretical background	Suggested constructs
Video games	Scharkow *et al.* (2015)	Uses and gratifications	*Individual gratifications* Exploration, Competence, Fantasy *Social gratifications* Teamplay, Competition, Social capital *Content gratifications* Mechanics, Narration
Video games	Sherry *et al.* (2006)	Uses and gratifications	Competition Challenge Social interaction Diversion Fantasy Arousal
Fantasy sports games	Billings and Ruihley (2014)	Player motivations	Arousal Camaraderie Competition Control and ownership Escape Fanship Pass time Self-esteem Social sport Surveillance
Fantasy sports games	Demetrovics *et al.* (2011)	Fantasy sport motivations	Escape Coping Fantasy Skill Development Recreation Competition Social
Fantasy sports games	Lee *et al.* (2013)	Player motivations	Game interest Hedonic experience Escape Competition Prize Bonding with friends or family Social interaction Substitute for a losing team Becoming a general manager/head coach Sport knowledge application Love for the sport

Source(s): Created by the authors

The present study applies an established marketing concept indicating that product attributes, or features, impact consumer purchase behavior. The basic concept has been discussed and tested by numerous authors from various angles and across different product categories. For instance, Auger *et al.* (2010) investigated the importance of social product attributes in purchasing decisions, while Didier and Lucie (2008) specifically measured consumers' W2P for products with organic and fair trade features. Lehdonvirta (2009) identified features of virtual items that drive consumers' purchase decisions in multiplayer online games and virtual environments. In the present study, consumer purchase behavior is represented by two factors Ownership and W2P. "Ownership" specifically measures how important it is for gamers to own virtual items, take them to different games and to sell them.

The second factor, "W2P" gauges if gamers are willing to pay for virtual items to become stronger in a game, to customize their virtual characters or to buy unique items nobody else possesses. In line with the research discussed above and observations related to gamer psychology by Hodent (2021), this study aims to investigate the concrete features SVGs need to possess to influence purchase behavior. It is hypothesized that certain features of SVGs will impact consumers' desire to own virtual items and to purchase them leading to the following research hypotheses:

H.1. SVG features have a significant impact on Ownership.

H.2. SVG features have a significant impact on W2P.

To be more specific in our analysis, more concrete SVG features and their respective impacts on Ownership and on W2P will be assessed individually leading to several sub hypotheses which will be presented after identifying the relevant SVG features via Exploratory Factor Analysis (EFA).

Participation

Breuer *et al*. (2011) point out that "there is no common definition" for sport Participation in academia (p. 270). Participation in the context of the present study refers to "the active sport consumer" (Funk *et al*., 2016, p. 44) who engages in soccer activities including playing or watching soccer in real life. For sports organizations, adequate Participation rates in their respective sports are vital. Cultivating a culture of Participation ensures a steady stream of interest in sport, which is essential for sport organizations' long-term viability. Fostering active Participation in sports may be particularly important in the context of sports video gaming because many video game enthusiasts may indeed be passive "mouse potatoes" (Kline *et al*., 2003, p. 36), who prefer playing video games to actively participating in their favorite sport. However, there is an ongoing dispute amongst academics regarding the impact of video gaming on social activities and sports Participation in general. Some early studies by Fromme (2003) and Crawford (2005) even suggest that the "use of video games was positively associated with increased levels of sport participation" (Crawford, 2012, p. 48). Furthermore, Adachi and Willoughby (2015, 2016) "found a long-term predictive effect of sports video game play on increased involvement in real-life sports" (Adachi and Willoughby, 2016, Abstract section, para. 1). Kim and Ross (2006) have observed, "the potential" of sport simulation games "as ancillary products that enhance the overall experience of real-life sport" (p. 37). Lee *et al*. (2013) conclude that "Fantasy sports help sport fans maintain their fanship for the sport as a whole, even when team fanship decreases" (p. 196). Despite these observations, previous research has not yet assessed which specific SVG features may impact Participation in the physical activity, more precisely, in soccer. Based on the existing research, however, this study predicts an impact of SVG features on Participation leading to the following hypothesis:

H.3. SVG features have a significant impact on Participation in soccer.

The impacts of individual SVG features on Participation in soccer will be assessed separately leading to several sub hypotheses which will be presented after identifying the concrete SVG features using EFA.

Demographics and types of gamers

The above research hypotheses may be influenced by demographic factors and gaming preferences. Previous studies have categorized gamers according to their motivations (Schuurman *et al*., 2008) and a variety of parameters such as frequency of play, length of an individual gaming session, number of games owned etc (Kapalo *et al*., 2015). Despite the evolution of these parameters and the inclusion of new parameters in recent literature, the

"average time spent on gaming" is still an important variable to investigate gamers' "behaviour and attitudes" (Poels *et al.*, 2012, p. 1) and categorize them as hardcore gamers or casual gamers. This study considers generational cohorts and hours per day gamers dedicate to playing SVGs, to provide an initial assessment determining if differences regarding the research hypotheses exist among these different subgroups.

Methodology

Developing the survey construct

This study is the first attempt to determine the impact of concrete SVG features on consumers' Ownership, W2P and Participation. Therefore, a new survey construct needed to be developed based on the theoretical concepts described above. The scale created by Kim and Ross (2006) explores "motivational dimensions underlying sport video game playing, from a uses and gratification perspective" (p. 28). Due to the authors' focus on sport simulation games rather than video games in general, their scale was used as a starting point for the development of the new scale for this study. However, certain items were adjusted to the context of this study, omitted, summarized or supplemented with relevant items from other research. Items from "Sports knowledge application" and "Identification with sport" (Kim and Ross, 2006), for instance, were combined in a new construct called "Sport Context" and supplemented with items from Billings and Ruihley (2014) and from Lee *et al.* (2013). Relevant items from the "Diversion" scale (Kim and Ross, 2006) were supplemented with items from Yee's (2007) "Escapism" scale to create the "Escapism" construct for this study. It should also be noted that Kim and Ross (2006) as well as many previous researchers focus on assessing gamer uses and gratifications and motivations for playing video games rather than on examining specific features of SVGs that may impact gamers' Ownership, W2P and Participation (please refer to Table 1). Consequently, certain constructs included in previous research were not suitable in the context of this study. The "Entertainment" construct used by Kim and Ross (2006), for instance, was not considered in the development of the new scale since its individual items were tailored to explore gamers' uses and gratifications but not well suited to assess features of SVGs. Similarly, the "Arousal" construct, while certainly adequate to assess gamer motivations (Billings and Ruihley, 2014; Sherry *et al.*, 2006), is rather abstract and cannot be attributed to one specific SVG feature causing this state of excitement. Conversely, an entirely new construct called "Game Realism" was added based on findings by Wood *et al.* (2004) suggesting that "the success of a video game depends on a fairly high degree of realism" (p. 8). Additionally, Ivory and Kalyanaraman (2007) "found that participants who played a more technologically advanced version of a similar video game experienced more presence, more involvement, more arousal and more excitement than those who played the less advanced version" (Krcmar *et al.*, 2011, p. 433). Game Realism is also a key feature in sports simulation games, a category of SVGs, which aim to replicate real sport (Kim and Ross, 2006). Due to the success of EA Sports' FIFA series, the importance of Game Realism is also of particular interest to FIFA. Interestingly, despite research suggesting that Game Realism may be a key feature for SVGs, none of the previously developed scales has included this feature as a separate construct. "Customization" is mentioned by Kim and Ross (2006) as one of the important features allowing gamers "to be both mentally and emotionally engaged with the content" (p. 30) but it is not included in their scale. Customization was nevertheless added as a separate construct in this study in line with the observations of other video game-related research indicating that Customization seems to be a crucial feature as it significantly influences gamer enjoyment and retention (Kwak *et al.*, 2010). The importance of Discovery or Exploration in video games has been discussed by scholars for decades, particularly by Bartle (1996) and Yee (2006) in the context of online multiplayer games. To assess its significance in an SVG context, the "Discovery" construct was added in this study as a separate construct.

Table 2 offers an overview of the initial constructs proposed for this study.

Table 2. Proposed SVG features, context in the literature and definition in the present study

Proposed SVG features	Author(s) highlighting the importance of the feature in a video gaming context	Context in the literature	Definition in this study
Competition	Billings and Ruihley (2014) Demetrovics *et al.* (2011) Kim and Ross (2006) Lee *et al.* (2013) Scharkow *et al.* (2015) Weiss and Schiele (2013) Yee (2007)	Competition is "at the core of sport" (Billings and Ruihley, 2014, p. 21) and has been identified as a key element in video game research by numerous authors. Competing with others offers "the opportunity to exercise dominance over each other" (Davis and Duncan, 2006, p. 254). Looking at sport simulation games, Kim and Ross (2006) included Competition as a construct in their study to measure "an individual's motivation to compete against other video game players and test their own competence" (p. 33). When assessing genre preferences among gamers, Scharkow *et al.* (2015) noted that "Sport and action games were favored by players who like to compete with others" (p. 296)	"Competition" measures how gamers enjoy competing with others and excelling at the game
Socializing	Bartle (1996) Billings and Ruihley (2014) Conway (2010) Demetrovics *et al.* (2011) Frostling-Henningsson (2009) Kim and Ross (2006) Scharkow *et al.* (2015) Sherry *et al.* (2006) Stein *et al.* (2012) Taylor and Taylor (2009) Yee (2007)	Frostling-Henningsson (2009) point out that for many gamers, video gaming "is not an activity motivated by a wish to be alone, secluded in front of a computer screen" (p. 561). Scharkow *et al.* (2015) found that "from a social perspective, playing in a team was the most important gratification sought in gaming" (p. 295). In a specific SVG context, Stein *et al.* (2012) emphasize that "80.1% of the participants reported that they play sports video games against (or with) friends or family" (p. 356). He also points out that for gamers "is not just about winning a game, but it is the experience of winning against someone in particular" (p. 358). In the specific context of sport simulation games, Kim and Ross (2006) included social interaction as a construct in their research to explore motives of sports video gaming. Conway (2010) examined "social play" (p. 337) in sport simulation games, using the popular soccer simulation Pro Evolution Soccer 2008, to understand how the game integrates into the broader aspects of gamers' lives. He found that "Whether alone or in a group, public or private, online or offline, the game-playing event is defined not only through what happens in-game, between teams, but also in what happens between the players, the spectators, the wider games-playing community, and the culture of sport. The game console itself acts first and foremost as a point of socialization (. . .)" (p. 351). These findings suggest that socializing seems to be particularly important in a SVG context similar to traditional sports where social interaction is regarded as one of the key consumer motives (see, for instance, Chanavat *et al.*, 2019; Funk *et al.*, 2016, 2023; Wann and James, 2019)	The "Socializing" construct evaluates how important it is for gamers to use video games as a platform to get together with others, getting to know them and working together in a group

(*continued*)

Table 2. Continued

Proposed SVG features	Author(s) highlighting the importance of the feature in a video gaming context	Context in the literature	Definition in this study
Discovery	Bartle (1996) Scharkow *et al.* (2015) Yee (2007)	"People play games in order to explore the game world" (Scharkow *et al.*, 2015, p. 294) and to find and know "things that most other players don't know about" (Yee, 2007, p. 773). "Discovery" thus includes exploring virtual worlds, finding quests, NPCs (non-playable characters) or locations, as well as collecting distinctive objects. Discovery as an important motivation for gamers has been discussed for decades, particularly in an early paper by Bartle (1996) who identified a separate gamer type labeled "Explorers" (Bartle, 1996)	"Discovery" addresses the importance of exploring virtual worlds, finding quests and hidden characters or items
Fantasy	Billings and Ruihley (2014) Demetrovics *et al.* (2011) Kim and Ross (2006) Scharkow *et al.* (2015) Sherry *et al.* (2006)	Kim and Ross (2006) state that "fantasy, depicts the enjoyment of an individual that assumes an alter ego in a virtual environment, like pretending to be a sport coach, star, or a team member" (p. 33). Video games also "allow players to do things that they normally would not be able to do" (Sherry *et al.*, 2006, p. 218) in reality, such as managing their own soccer team, or steering their favorite fictional character in a racing game. Particularly regarding SVGs, Fantasy is such an important feature that separate SVG category has evolved which is sometimes labeled fantasy sport with its own association, The Fantasy Sport Trade Association (Billings and Ruihley, 2014)	"Fantasy" assesses how important gamers consider that SVGs offer the opportunity to do something related to their favorite sport that they could not do in real life
Relationships	Billings and Ruihley (2014) Cole and Griffiths (2007)	Cole and Griffiths (2007) emphasize that "Just under half of all gamers (45.6%) believed their online friends to be comparable to their real-life friends" (p. 579). This construct adopts the items developed by Yee (2007) assessing how often gamers find themselves having meaningful conversations with other gamers, how often they talk to their online friends about personal issues and how often they received support from their online friends when they had real life problems. In line with previous research, the present study distinguishes between "Relationships", a "more relationship-oriented" construct (Billings and Ruihley, 2014, p. 25), sometimes referred to as "camaraderie" on the one side, and interactions between gamers which are centered around the actual sports activity on the other side, referred to "Socializing"	The "Relationships" construct assesses the depth of relationships formed between gamers

(*continued*)

Table 2. Continued

Proposed SVG features	Author(s) highlighting the importance of the feature in a video gaming context	Context in the literature	Definition in this study
Game realism	Krcmar *et al*. (2011) Wood *et al.* (2004)	"Game Realism" refers to the realistic look and feel of an SVG which may be an indication for a game's success (Wood *et al*., 2004). This seemed to be particularly important for "games that were based on factual events. Such games are usually based upon battles or sports events" (Krcmar *et al*., 2011). Krcmar *et al*. (2011) point out that "perceived realism can influence mental processing of media messages, attitudes and behavior, in some cases intensifying effects and, arguably enhanced perceived realism on the part of the player" (p. 433)	"Game Realism" measures how important gamers consider a realistic look and feel of a video game including avatars/players/characters and their interactions
Escapism	Billings and Ruihley (2014) Frostling-Henningsson (2009) Lee *et al*. (2013) Kim and Ross (2006) Weiss and Schiele (2013)	The "Escapism" construct, sometimes referred to as "Diversion" (Kim and Ross, 2006) refers to the desire to temporarily withdraw from real-life challenges, stresses, or mundane routines by immersing oneself in the virtual world of a video game. For many gamers, SVGs provide a means to disconnect from reality and engage in an alternative environment where they can explore new identities, experiences, or narratives that are different from their everyday lives. This form of escapism allows gamers to experience a sense of freedom, relaxation, or excitement that may be lacking in their real-world circumstances, often serving as a coping mechanism or a form of stress relief	The "Escapism" construct measures the importance of playing SVGs to avoid thinking about real-life problems, relaxing and taking a break from regular routines
Sport context	Billings and Ruihley (2014) Davis and Duncan (2006) Lee *et al*. (2013) Kim and Ross (2006)	SVGs "draw on the presentation style of television sports coverage" which "provides video gamers with a sense of familiarity and also authenticity" (Crawford, 2012, p. 87). In other words, many sports video gamers may be supporters of physical sports, i.e. they participate in the physical activity, attend sporting events and often have a preferred sports team (Stein *et al*., 2012). Particularly the "importance of knowledge" in a SVG context is highlighted by Billings and Ruihley (2014, p. 32) and by Davis and Duncan (2006) who observe that particularly male gamers tend to "strengthen their own masculinity by boasting their sports knowledge superiority" (p. 260)	The "Sport Context" construct assesses if gamers play SVGs because they love a specific sport, if they simulate their own strategies at the video game and if they see video games overall as a chance to prove their sport knowledge
Customization	Bailey *et al.* (2009) Kim and Ross (2006) Kim *et al.* (2015) Kwak *et al.* (2010) Teng (2010) Yee (2007)	Kim and Ross (2006) point out that in many SVGs, gamers "have the ability to customise game attributes such as stadia, logo design and team schedule. These interactive features enable gamers to be both mentally and emotionally engaged with the content" (p. 30) and gamers in general who were "given the option of self-designed avatars reported more positive reactions compared to those playing with pre-constructed characters" (Kim *et al*., 2015). Thus, Customization seems to be a feature that may influence gamer enjoyment and retention (Kwak *et al*., 2010)	"Customization" measures how important it is for gamers to spend time on customizing their characters and that their characters look different from others

Source(s): Created by the authors

Survey

The survey objectives, methodology and content were reviewed and approved by the Ethics Committee of the university. The software Smart Survey was used to create the online survey and a link to the self-administered questionnaire was distributed via Email to users registered in FIFA's customer database. The database includes consumers who have registered on EA Sports' FIFA platform (https://www.ea.com/en-gb/games/ea-sports-fc) before 2024 and via FIFA's platforms PlayZone (https://play.fifa.com), FIFA+ (https://www.plus.fifa.com) and FIFAe (https://www.fifa.gg). All of these individuals had previously agreed to be contacted via Email by FIFA for market research purposes. After providing informed consent to take part in this anonymous survey, the participants were presented with a summary of the intentions and scope of the project. The survey contained questions to evaluate the preferences of gamers using a 7-point Likert scale as well as the following "instructed response item" (IRI): We want to test your attention, so please click on the answer "Agree." A total of 831 complete responses were collected between 13 January 2024 and 5 March 2024. After removing the respondents who did not answer correctly to the IRI, a total number of 701 responses was kept in the dataset for further analysis using SPSS and AMOS 29.

Profile of survey respondents

The overwhelming majority of survey respondents identified as "male" (98%), versus 2% who identified as "female." This is not unusual in the realm of video gaming as observed in other studies which reported similar sample compositions (Stein *et al*., 2012). Additionally, Statista estimates that 63% of soccer fans around the globe are male compared to 37% of female supporters ("Share of Soccer Fans Worldwide in 2022, by Gender," 2022) and it can be assumed that the majority of registered users in FIFA's customer database identifies as male. 16% of survey respondents reside in the US, followed by respondents from Argentina (6%), England, (4%), Germany (4%), Italy (4%), South Africa (4%) and Spain (3%). The remaining respondents are from other countries around the world (<3% per country). When asked about their gaming habits, over 70% replied that they played video games "daily" or "several times per day". Only a small percentage of respondents indicated that they played weekly or less (<8%). Table 3 summarizes these results.

The length of an average gaming session is 2–4 h a day for 50% of respondents. About 8% indicated that they played for 6–10 h a day and about 4% play for more than 10 h a day as illustrated in Table 4.

In terms of age, 44% of respondents identified as Generation Y or Millennials (born between 1981 and 1996) and 48% as Generation Z (born between 1997 and 2012) (Fietkiewicz *et al*., 2016).

Exploratory factor analysis

EFA was conducted using principal component analysis and Varimax rotation with approximately 50% of cases randomly selected from this dataset ($n = 348$). The minimum

Table 3. How often do you play video games?

	N	Percentage
Never	0	0%
Less than monthly	12	1.7%
Monthly	8	1.1%
Weekly	36	5.1%
Several times a week	150	21.4%
Daily	330	47.1%
Several times a day	165	23.5%

Source(s): Created by the authors

Table 4. On an average day, how long do you play?

	N	Percentage
Less than 1 h	17	2.4%
1–2 h	144	20.5%
2–3 h	193	27.5%
3–4 h	158	22.5%
4–6 h	109	15.5%
6–10 h	55	7.8%
More than 10 h	25	3.6%

Source(s): Created by the authors

factor loading was set to 0.50. The communality of the scale indicating the amount of variance in each factor was also assessed and showed that communalities were above 0.50. The factor structure was then evaluated in various iterations based on the failure to load, items loading and observed cross-loadings. The final iteration of the EFA resulted in a Kaiser–Mayer–Olkin measure of sampling adequacy of 0.865 indicating that the strength of the partial correlation between the variables is suitable for factor analysis. The items explained 69.44% of the variance in the 10-factor solution. Results of Bartlett's Test of Sphericity were significant, $x^2 = 7445.25$ ($p < 0.001$), which suggests that the observed variables in the dataset are sufficiently correlated to justify conducting a factor analysis (Yong and Pearce, 2013).

After the final EFA iteration, seven factors related to SVG features remained in addition to the three factors labeled "Ownership," "W2P" and "Participation." The items of the "Competition" construct did not load on a separate factor as initially expected. Instead, the EFA revealed that the "Competition" items loaded together with the items of the "Socializing" construct. The new factor identified through the EFA was therefore labeled Competing and Socializing (Factor 4). This is in line with the observations of some previous research by Scharkow *et al*. (2015) who found that "Teamplay and competition were not mutually exclusive gratifications, but positively correlated. This was also true for social capital, which can apparently also arise out of competitive gameplay" (p. 295). In addition, most items of the "Customization" construct did not load adequately and were thus either disregarded or -in one case-added to Factor 5 – "Discovery". Table 5 illustrates the extracted factors and loadings.

Measurement model

Confirmatory factor analysis (CFA) was conducted using AMOS 29.0 and the remaining 50% of the sample ($n = 353$) to test the measurement model. The indices used to assess the overall goodness of fit indicated that most values were within the common acceptance levels (Hair *et al*., 2010; Hooper *et al*., 2008; Hu and Bentler, 1999). Table 6 provides an overview of the obtained values.

While the computed Chi-square statistic (CMIN = 1391.37) is outside the suggested threshold ($p < 0.001$), measures like RMSEA, SRMS, TLI and CFI indicate a good model fit. The measurement model is, therefore, accepted particularly based on recent research indicating that CMIN should no longer relied upon as a basis for acceptance or rejection (Hooper *et al*., 2008). The present model also falls well within the combined thresholds suggested by Hu and Bentler (1999) combining thresholds of RMSEA <0.06 with SRMR <0.09 to assess model fit (Hooper *et al*., 2008).

Composite reliabilities (CRs) of the constructs ranged from 0.74 to 0.91, mostly above the recommended 0.70 benchmark (Hair *et al*., 2010) with the exception of CR for the item "Sport Context" which was 0.67, close to the suggested benchmark. CR was therefore established for each construct in the study. The convergent validity of the scale items was estimated using Average Variance Extracted (AVE). Most AVE values were above the recommended threshold

Table 5. Extracted factors and loadings

Items and factors extracted	Factor loading	Eigenvalue	Percent of variance explained
Factor 1 – ownership		9.34	23.96%
How important would it be for you to actually own digital items, players or characters?	0.72		
It would be important for me to take digital items, players or characters with me to other games	0.80		
It would be important for me to sell digital items, players or characters on virtual marketplaces like OpenSea	0.79		
I would like to exchange rewards earned in the game for real-life benefits (e.g. buy real-life merchandise with points earned in the game)	0.74		
It is important for me to level up my character/players/team as fast as possible	0.61		
I like to acquire rare items that most players will never have	0.67		
It is important to me to be well-known in the game	0.62		
Factor 2 – W2P		2.69	6.98%
I would pay to become stronger in the game (e.g. buy special items etc.)	0.82		
I would pay to customize the look of my players/characters in the game (e.g. buy cosmetic skins, etc.)	0.85		
I would pay to purchase digital items, players or characters nobody else has in the game	0.88		
I would use real world money to purchase digital items, players or characters in a game	0.89		
Factor 3 – participation		1.58	4.05%
Playing soccer video games encourages me to play soccer in real life	0.83		
Playing soccer video games makes me more interested in watching soccer either on TV or live	0.84		
Watching soccer video games (e.g. on Twitch, YouTube) encourages me to engage with soccer in real life	0.78		
Factor 4 – competing and socializing		4.15	10.63%
I enjoy competing with other gamers	0.78		
When I lose to someone, I immediately want to play again in an attempt to beat him/her	0.71		
It is important to me to be the most skilled person playing the game	0.52		
I enjoy working with other gamers in a group	0.70		
I enjoy getting to know other gamers	0.75		
I use video games as a reason to get together with others	0.54		
Factor 5 – discovery		2.25	5.76%
I enjoy exploring the virtual world in a game just for the sake of exploring it	0.77		
I enjoy finding quests, NPCs (non-playable characters) or locations that most people do not know about	0.84		
I enjoy collecting distinctive objects or clothing that have no functional value in the game	0.76		
I like to spend much time customizing my character	0.61		
Factor 6 – fantasy		1.37	3.50%
Sports video games allow me to pretend to be a sport coach/star/team member etc.	0.72		
I like to do something that I could not normally do in real life sport through a sports video game	0.78		
I play video games to feel as if I was somebody else	0.73		
Factor 7 – relationship		1.93	4.96%

(*continued*)

Table 5. Continued

Items and factors extracted	Factor loading	Eigenvalue	Percent of variance explained
How often do you find yourself having meaningful conversations with other gamers?	0.64		
How often do you talk to your online friends about your personal issues?	0.86		
How often have your online friends offered you support when you had a real life problem?	0.86		
Factor 8 – game realism		1.42	3.64%
How important would it be for you that avatars/players/characters in the video game look realistic?	0.83		
It would be important for me that interactions between avatars/players/characters are realistic, e.g. that avatars react to other avatars (smile, etc.)	0.76		
A realistic look and feel of the video game is important to me	0.80		
Factor 9 – escapism		1.29	3.30%
I like to play games to avoid thinking about some of my real-life problems or worries	0.53		
I like to play games to relax from the day's work	0.84		
Playing games gives me a break from my regular routine	0.81		
Factor 10 – sports context		1.10	2.75%
I play sports video games because I love the sport	0.56		
I simulate my sport strategies at the video game	0.60		
Sports video games provide a chance to prove my sport knowledge	0.72		

Source(s): Created by the authors

Table 6. Overview of model-fit measures

Fit indices	Recommended value	Sources	Obtained value
CMIN/df	3–5 ($p > 0.05$)	Hooper *et al*. (2008)	1391.37 ($p < 0.001$)
Goodness-of-fit statistic (GFI)	>0.90	Hair *et al*. (2010)	0.83
Comparative fit index (CFI)	>0.90	Hooper *et al*. (2008)	0.90
Tucker–Lewis index (TLI)	>0.90	Hooper *et al*. (2008)	0.88
Standardized root mean square residual (SRMR)	<0.08	Hooper *et al*. (2008), Hu and Bentler (1999)	0.07
Root mean square error of approximation (RMSEA)	<0.06	Hu and Bentler (1999)	0.06

Source(s): Created by the authors

value of 0.50 (Fornell and Larcker, 1981) or just less than 0.50 and the scales used for the study consequently possess the required convergent validity. Exceptions were the "Discovery" and the "Sport Context" constructs whose AVE were below the suggested threshold value (0.42 and 0.41, respectively). Based on Fornell and Larcker (1981) and the computed CR, convergent validity is still assumed to be adequate for these two constructs, "even though more than 50% of the variance" may be "due to error" (p. 46). Table 7 summarizes the composite reliability and convergent validity of each construct.

Heterotrait-Monotrait (HTMT) ratios were used to assess discriminant validity, which is the extent to which constructs are distinct from one another. Discriminant validity is essential

Table 7. Construct composite reliability and convergent validity

Construct	Composite reliability	Convergent validity (AVE)
Ownership	0.87	0.49
W2P	0.91	0.73
Participation	0.87	0.70
Competing and socializing	0.84	0.46
Discovery	0.74	0.41
Fantasy	0.74	0.49
Relationships	0.87	0.70
Game realism	0.83	0.62
Escapism	0.74	0.51
Sport context	0.67	0.42

Source(s): Created by the authors

in structural equation model (SEM) because it ensures that the constructs are not too closely related to each other, thus providing evidence that they are measuring distinct concepts. The HTMT ratios were substantially below the suggested threshold of 0.90 and discriminant validity was consequently established for all constructs (Henseler *et al*., 2015). The results are presented in Table 8.

Structural model

An SEM was developed ($n = 701$) to test the research hypotheses using AMOS. The structural model is shown in Figure 1:

Results

Based on the structural model, the research hypotheses of this study were evaluated. The results are summarized in Table 9.

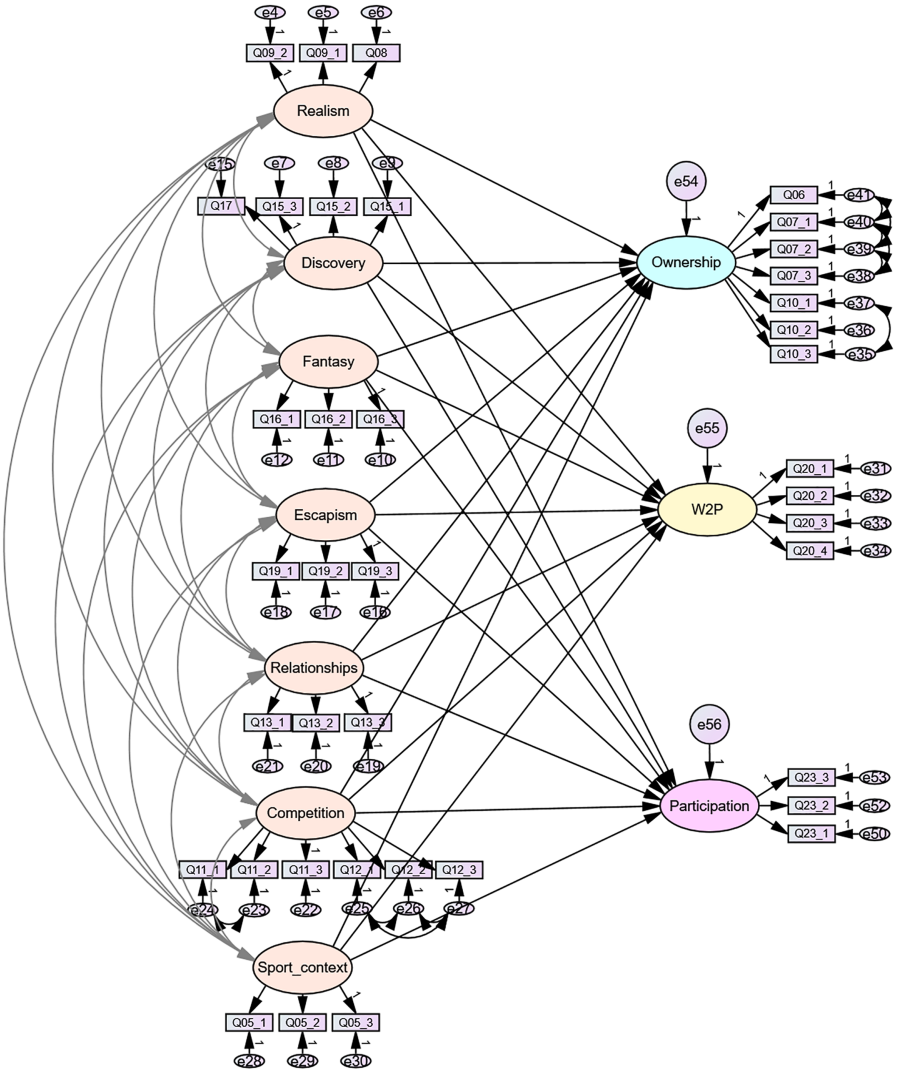
Impact on dependent variables

The dependent variables Ownership and W2P are both significantly impacted by Discovery (H1.b and H2.b supported) and by Competing and Socializing (H1.f and H2.f supported). W2P is additionally significantly impacted by Relationships (H2.e supported). This suggests that exploring virtual worlds, finding quests or non-playable characters and collecting distinctive

Table 8. Overview of Heterotrait–Monotrait (HTMT) ratios

	W2P	Ownership	Participation	Sport context	Discovery	Fantasy	Escapism	Relation-ships	Game realism
Ownership	0.52								
Participation	0.21	0.28							
Sport context	0.11	0.27	0.54						
Discovery	0.30	0.40	0.29	0.17					
Fantasy	0.11	0.21	0.58	0.56	0.41				
Escapism	0.12	0.09	0.48	0.27	0.39	0.49			
Relationships	0.45	0.41	0.24	0.07	0.32	0.17	0.03		
Game realism	−0.02	0.07	0.28	0.40	0.32	0.42	0.18	−0.05	
Competing and socializing	0.38	0.73	0.31	0.17	0.22	0.10	0.03	0.47	0.003

Source(s): Created by the authors



Note(s): Fit indices: $\chi 2 = 2036.46$, $p < 0.001$, GFI = 0.87, CFI= 0.90, TLI= 0.89, RMSEA = 0.055, SRMR = 0.064, $n = 701$
Source(s): Created by the authors

Figure 1. Structural model overview

objects – items included in the Discovery construct – seem to positively impact users' need to own certain digital items and to actually pay for them. Users also are more willing to pay if they can develop meaningful Relationships and find online friends in the game.

The dependent variable Participation is significantly impacted by the largest number of independent variables, namely by Fantasy (H3.c supported), Escapism (H3.d supported), Relationships (H3.e supported), Competing and Socializing (H3.f supported) and by Sport Context (H3.g supported). This indicates that a number of SVG features assessed in the context of

Table 9. Hypothesis testing and results

Hypotheses	Hypothesized relationship		Standardized estimates	*p*-value	Result
H.1 *SVG features will have a significant impact on ownership*					
H1.a	Game Realism will have a significant impact on Ownership	RE → OS	0.05	$p = 0.215$	not supported
H1.b	Discovery will have a significant impact on Ownership	DC → OS	0.19	$p < 0.001$	supported
H1.c	Fantasy will have a significant impact on Ownership	FA → OS	0.01	$p = 0.888$	not supported
H1.d	Escapism will have a significant impact on Ownership	EC → OS	−0.03	$p = 0.519$	not supported
H1.e	Relationships will have a significant impact on Ownership	RS → OS	−0.05	$p = 0.198$	not supported
H1.f	Competing and Socializing will have a significant impact on Ownership	CS → OS	0.84	$p < 0.001$	supported
H1.g	Sport Context will have a significant impact on Ownership	SC → OS	−0.01	$p = 0.892$	not supported
H.2 *SVG features will have a significant impact on W2P*					
H2.a	Game Realism will have a significant impact on W2P	RE → W2P	−0.07	$p = 0.164$	not supported
H2.b	Discovery will have a significant impact on W2P	DC → W2P	0.16	$p = 0.002$	supported
H2.c	Fantasy will have a significant impact on W2P	FA → W2P	0.02	$p = 0.729$	not supported
H2.d	Escapism will have a significant impact on W2P	EC → W2P	0.04	$p = 0.400$	not supported
H2.e	Relationships will have a significant impact on W2P	RS → W2P	0.11	$p = 0.018$	supported
H2.f	Competing and Socializing will have a significant impact on W2P	CS → W2P	0.40	$p < 0.001$	supported
H2.g	Sport Context will have a significant impact on W2P	SC → W2P	−0.05	$p = 0.440$	not supported
H.3 *SVG features will have a significant impact on participation*					
H3.a	Game Realism will have a significant impact on Participation	RE → PA	0.01	$p = 0.810$	not supported
H3.b	Discovery will have a significant impact on Participation	DC → PA	0.01	$p = 0.841$	not supported
H3.c	Fantasy will have a significant impact on Participation	FA → PA	0.25	$p < 0.001$	supported
H3.d	Escapism will have a significant impact on Participation	EC → PA	0.23	$p < 0.001$	supported
H3.e	Relationships will have a significant impact on Participation	RS → PA	0.09	$p = 0.039$	supported
H3.f	Competing and Socializing will have a significant impact on Participation	CS → PA	0.16	$p < 0.001$	supported
H3.g	Sport Context will have a significant impact on Participation	SC → PA	0.28	$p < 0.001$	supported

Source(s): Created by the authors

this study may actually trigger gamers' Participation in soccer activities. This is not surprising as many sports gamers also tend to be supporters of the corresponding physical sport (Stein *et al.*, 2012, p. 351).

The independent variable Competing and Socializing does not only influence all three dependent variables, but it also shows the highest impact of all independent variables on Ownership and on W2P. Gamers thus seem to perceive a need to purchase digital items, players

or characters and to pay for these with real-world money, if this enhances their gaming experience related to competing and socializing with their peers.

The independent variable Game Realism, which is a new variable assessed for the first time in the context of this study, has no significant impact on any of the dependent variables (H1.a, H2.a, H3.a not supported).

Differences between generational cohorts and types of gamers

These outcomes differ slightly for younger respondents who identified as Generation Y ($n = 308$) and Generation Z ($n = 336$), compared to the full sample: For Generation Y, the results indicate that fewer independent variables exert a significant impact on Participation, implying that fewer SVG features trigger Generation Y to participate in real-life soccer activities. The results for Generation Z reveal that only the independent variable Competing and Socializing had a significant impact on W2P. Comparing Generation Y to Generation Z respondents furthermore illustrates that the independent variables Competing and Socializing and Discovery exert a significant impact on Ownership for both generational cohorts. The variables Discovery, Relationships and Competing and Socializing have a significant impact on W2P for Generation Y but only Competing and Socializing shows a significant impact on W2P for Generation Z respondents. Escapism, Sport Context and Fantasy have a significant impact on Participation for both generational cohorts. In addition, Competing and Socializing also shows an impact on Participation for Generation Z. Table 10 summarizes the standardized estimates and *p*-values for Generation Z, Generation Y and the complete sample.

Compared to the full sample, the results of this study also differ for the subgroup of hardcore gamers who stated that they play for >6 h per day ($n = 80$). For this subgroup, additional independent variables, namely Game Realism, Escapism and Sports Context, show a significant impact on W2P. The regression weight of Sports Context is strongly negative, which suggests that Sports Context negatively impacts hardcore gamers' W2P. While

Table 10. Standardized estimates and *p*-values comparison of generational cohorts

	Standardized estimates			*p*-values		
Impact	Gen Z	Gen Y	Total	Gen Z	Gen Y	Total
RE → OS	−0.02	0.06	0.05	$p = 0.215$	$p = 0.245$	$p = 0.215$
DC → OS	0.16	0.23	0.19	$p = 0.028$	$p < 0.001$	$p < 0.001$
FA → OS	0.10	−0.01	0.01	$p = 0.237$	$p = 0.892$	$p = 0.888$
EC → OS	−0.06	0.03	−0.03	$p = 0.415$	$p = 0.632$	$p = 0.519$
RS → OS	−0.12	0.004	−0.05	$p = 0.059$	$p = 0.951$	$p = 0.198$
CS → OS	0.94	0.77	0.84	$p < 0.001$	$p < 0.001$	$p < 0.001$
SC → OS	−0.08	0.06	−0.01	$p = 0.356$	$p = 0.386$	$p = 0.892$
RE → W2P	−0.12	−0.07	−0.07	$p = 0.124$	$p = 0.268$	$p = 0.164$
DC → W2P	0.13	0.20	0.16	$p = 0.105$	$p = 0.012$	$p = 0.002$
FA → W2P	0.12	0.04	0.02	$p = 0.203$	$p = 0.646$	$p = 0.729$
EC → W2P	0.04	0.01	0.04	$p = 0.592$	$p = 0.926$	$p = 0.400$
RS → W2P	0.09	0.16	0.11	$p = 0.170$	$p = 0.028$	$p = 0.018$
CS → W2P	0.52	0.27	0.40	$p < 0.001$	$p < 0.001$	$p < 0.001$
SC → W2P	−0.14	0.01	−0.05	$p = 0.161$	$p = 0.949$	$p = 0.440$
RE → PA	0.03	0.06	0.01	$p = 0.064$	$p = 0.788$	$p = 0.810$
DC → PA	−0.10	0.07	0.01	$p = 0.157$	$p = 0.408$	$p = 0.841$
FA → PA	0.25	0.24	0.25	$p = 0.005$	$p = 0.005$	$p < 0.001$
EC → PA	0.27	0.21	0.23	$p < 0.001$	$p = 0.006$	$p < 0.001$
RS → PA	0.11	0.06	0.09	$p = 0.064$	$p = 0.422$	$p = 0.039$
CS → PA	0.20	0.07	0.16	$p = 0.002$	$p = 0.297$	$p < 0.001$
SC → PA	0.30	0.29	0.28	$p < 0.001$	$p < 0.001$	$p < 0.001$

Source(s): Created by the authors

Relationships significantly impact Ownership, this independent variable did not show a significant impact on W2P. The standardized estimates and *p*-values for the subgroup of hardcore gamers are summarized in Table 11.

Discussion

Sports organizations have a strategic interest in leveraging SVGs to generate commercial opportunities and increase Participation in their sport. This study examined the specific features of SVGs that may significantly influence gamers' desire to own virtual items, their W2P for these items and their Participation in soccer-related activities.

Limitations and directions for future research

The study uses a convenience sample which was drawn from the population of consumers registered in FIFA's consumer database. Due to the nature of the population, it can be assumed that respondents have an inherent interest in soccer in general and in sports video gaming in particular. The sample may therefore not be representative and should be applied carefully to the population of sports gamers. In addition, there are obstacles encountered by web-based surveys due to the uncertainty surrounding the selection mechanism for non-probability samples (Tutz, 2022). Female gamers and individuals identifying as Generation X and older are not adequately represented in the sample and the results can therefore not be applied to these demographics. Future research should aim to draw more representative samples by including a broader range of demographics, income levels and geographic locations. This would ensure that findings are generalizable across different segments of the population. The study also offers first insights into the preferences of different types of gamers according to their age group and time spent playing. However, additional research is needed to determine the preferences of additional types of gamers, for instance by creating dedicated gamer

Table 11. Standardized estimates and *p*-values for hardcore gamers who play for > 6 h per day

Impact	Standardized estimates Hardcore gamers	Total	*p*-values Hardcore gamers	Total
RE → OS	0.19	0.05	$p = 0.317$	$p = 0.215$
DC → OS	0.33	0.19	$p = 0.026$	$p < 0.001$
FA → OS	−0.03	0.01	$p = 0.833$	$p = 0.888$
EC → OS	0.15	−0.03	$p = 0.486$	$p = 0.519$
RS → OS	−0.29	−0.05	$p = 0.026$	$p = 0.198$
CS → OS	1.13	0.84	$p < 0.001$	$p < 0.001$
SC → OS	−0.45	−0.01	$p = 0.147$	$p = 0.892$
RE → W2P	0.65	−0.07	$p = 0.022$	$p = 0.164$
DC → W2P	0.35	0.16	$p = 0.038$	$p = 0.002$
FA → W2P	−0.32	0.02	$p = 0.118$	$p = 0.729$
EC → W2P	0.65	0.04	$p = 0.044$	$p = 0.400$
RS → W2P	0.02	0.11	$p = 0.910$	$p = 0.018$
CS → W2P	0.76	0.40	$p = 0.003$	$p < 0.001$
SC → W2P	−1.03	−0.05	$p = 0.042$	$p = 0.440$
RE → PA	0.24	0.01	$p = 0.611$	$p = 0.810$
DC → PA	−0.12	0.01	$p = 0.315$	$p = 0.841$
FA → PA	0.26	0.25	$p = 0.078$	$p < 0.001$
EC → PA	0.34	0.23	$p = 0.076$	$p < 0.001$
RS → PA	0.24	0.09	$p = 0.026$	$p = 0.039$
CS → PA	−0.11	0.16	$p = 0.439$	$p < 0.001$
SC → PA	0.25	0.28	$p = 0.335$	$p < 0.001$

Source(s): Created by the authors

marketing personas based on parameters like frequency of play, length of an individual gaming session, number of games owned etc (Kapalo *et al*., 2015). Future research could also examine how detailed "game mechanics" of SVGs impact Ownership, W2P and Participation including the impact of game narratives, "cooperative goal structures" (Morschheuser *et al*., 2017, p. 171), "reward and punishment features" and "presentation features" such as sound or in-game advertising (Laffan *et al*., 2016, p. 545).

SVG features impacting ownership and W2P

Competing and Socializing has the highest impact on Ownership and W2P and is therefore the key feature SVGs should possess from a commercial perspective. This observation suggests that gamers may be more inclined to purchase and own special items or characters if these increase their chances to excel and win a game. Due to gamers' preference to compete with someone they feel attached to Frostling-Henningsson (2009), SVGs should not only enable friends to play together but should also appeal to other social groups such as families, work colleagues or interest groups. Since collaboration is an important part of Competing and Socializing as well, games should not only offer gamers the opportunity to compete but also to work together or build something jointly, for instance creating a fantasy soccer team. Establishing online forums and communities for gamers would additionally enable them to socialize outside SVGs and establish real friendships which may extend into the physical realm (Cole and Griffiths, 2007), for instance when they meet at tournaments or dedicated gaming events. The feature Discovery was assessed for the first time in this study in the context of SVGs. Previously, the importance of discovering items, non-playable characters and other elements within a game had only been evaluated in an online multiplayer game context (Bartle, 1996; Yee, 2006). However, based on the results of the present study, Discovery also seems to be a crucial aspect of the SVG experience with an impact on the commercial aspects. Finding something hidden or rare gives gamers a sense of accomplishment. It rewards curiosity and thorough exploration, contributing to a feeling of mastery over the video game and many gamers seem to be willing to pay for this experience.

The lack of a significant impact of Fantasy and Escapism on Ownership and W2P hints at the possibility that immersion into an SVG, as captured by the Fantasy and Escapism constructs, can lead to deeper engagement with a game, but this does not necessarily result in increased spending. This may occur because the SVG itself sufficiently satisfies gamers' needs, reducing their intention to spend money on additional content or items. Likewise, Sport Context, which did not demonstrate a significant impact on Ownership and W2P, may further enhance the sense of immersion and connection to the sport that gamers enjoy, thereby fulfilling their needs without necessitating additional in-game purchases. This may lead to a delicate balancing act for game developers and sports organizations: striving to make SVGs as enjoyable as possible, bringing gamers close to their preferred sport while simultaneously introducing gameplay elements that encourage gamers to be more inclined to purchase virtual goods. One potential approach involves offering purchasable in-game items or characters that enhance gamers' competitive abilities, thereby addressing the previously discussed findings related to Competing and Socializing.

SVG features impacting participation

Despite their lack of significant impact on commercial aspects, the immersive SVG features Fantasy, Escape and Sport Context had the highest impact on Participation. One reason may be that gamers who use SVGs develop a stronger identification with a sport through video gaming (Adachi and Willoughby, 2016). The immersive experience generated through Fantasy, Escape and Sport Context features can make real-life soccer more appealing, leading gamers to want to experience it beyond the screen. Many SVGs also involve strategies, rules and skills that are applicable to physical soccer activities. Gamers who escape into these SVGs may feel more confident in their understanding of soccer, which can lower the barrier to trying it out in

real life (Funk *et al*., 2016) This observation is in line with previous research by Adachi and Willoughby (2015, 2016) who assessed the impact of sport video gaming on Participation and concluded "that adolescents who play more sports video games may be more likely to get involved in real-life sports over time than youth who play less sports video games" (Adachi and Willoughby, 2015, p. 337). The present study contributes further insights by identifying specific features within SVGs – namely Fantasy, Escape and Sport Context – that positively influence Participation in soccer. Particularly Sport Context is a crucial feature and significantly contributes to the immersive experience because gamers of SVGs are often also avid supporters of physical sport in real life (Stein *et al*., 2012) and do not just want to pretend to be any famous coach or player but to be a famous character in soccer. Competing and Socializing as well as Relationships are additional SVG features impacting Participation in soccer. This is not surprising as many SVGs are played in multiplayer modes against like-minded gamers or even friends, which can foster a sense of community, social interaction and the formation of relationships beyond the screen (Adachi and Willoughby, 2016). This social aspect can inspire gamers to seek out similar interactions in the real world, leading to increased Participation in physical soccer where they can connect with others who share their passion. These findings indicate that socializing and relationship features within SVGs are particularly important to enhance real-life soccer Participation, mirroring traditional sports where social interaction is recognized as a key consumer motivation to participate in various sports activities ranging from passive spectatorship to actively participating in physical activities (see, for example, Chanavat *et al*., 2019; Funk *et al*., 2016, 2023; Wann and James, 2019). Game Realism did not show a significant impact on Participation suggesting that, while visual quality and realistic interactions can enhance the enjoyment of an SVG, it does not directly influence the factors that motivate gamers to participate in the real-life soccer. The SVG features Fantasy, Escape and Sport Context seem to be more relevant and provide sufficient enjoyment to impact Participation. In contrast, Game Realism may primarily enhance the in-game experience without directly influencing external behaviors.

SVG preferences of different generational cohorts

The findings of this study provide a first indication of the commonalities and differences between generational cohorts and types of gamers. In terms of age groups, the results generally confirm the findings of previous research suggesting that Generation Y and Generation Z gamers show similar preferences. For instance, Meehan (2023) observed that both generations enjoy competing with friends and socializing with their peers while playing video games. Westcott *et al*. (2023) found that "Almost half of Gen Zs and Millennials in the US" "spend more time socializing with others in social media than in the physical world" (para.2), compared to about 20% of older generation respondents. 40% of Generation Z and Generation Y respondents "admit to socializing more in video games than in the physical world" (Westcott *et al*., 2023) compared to 9% of older generation respondents (Westcott *et al*., 2023). In line with these findings, the results of the present study indicate that Competing and Socializing features in SVGs exert a significant influence on Ownership and on W2P for both Generation Y and Generation Z respondents. Generation Z and Millennials may prioritize socializing in video games even more than older generations like Generation X and Baby Boomers due to their status as digital natives, having grown up with the Internet and technology (Kotler *et al*., 2021). They are comfortable using online platforms for interaction, viewing gaming as a social space rather than just entertainment. As societal norms shift toward valuing experiences over material possessions, video gaming aligns with this trend, often offering rich social experiences (Sundbo and Sørensen, 2013; Yaffe *et al*., 2019). In contrast, older generations may see video games as solitary activities (De Schutter, 2011) and have different preferences for socializing, having developed their networks at a time when face-to-face interaction was more dominant. A general challenge for developers may even be that older generations perceive video games overall negatively as highlighted by Ferguson and Colwell (2017) who

established age as a "predictor of negative attitudes toward video games" (p. 24). For gamers belonging to older generations, it may thus be less desirable to spend money in order to enhance their social experience in gaming environments.

The key difference between Generation Y and Generation Z respondents can be observed regarding the impact of independent variables on W2P. For Generation Y respondents, Discovery, Relationships and Competing and Socializing influence W2P while only Competing and Socializing has an impact on W2P for Generation Z respondents suggesting that there are fewer SVG features which convince the younger generation to pay to become stronger in a game, customize their players or purchase unique items and characters. Despite the difference in SVG features with a significant impact on W2P, previous research has shown that both younger generations generally seem to be more willing to pay for content compared to their older peers (Meehan, 2023).

SVG preferences of different types of gamers

For the subgroup of hardcore gamers, additional independent variables, namely Game Realism, Escapism and Sports Context show a significant impact on W2P. Game Realism and Escapism have a positive impact on W2P indicating that these variables, which collectively enhance immersion into SVGs, may influence this subgroup of gamers to spend money to advance in an SVG, customize their players or characters and obtain unique virtual items. Game Realism can also mean more accurate simulations of strategies and sports knowledge, providing a competitive edge in understanding and executing in-game decisions that mimic real-world tactics. This implies that hardcore gamers may prefer sport simulation games which resemble real-life sports. Interestingly, Game Realism did not have an impact on any of the dependent variables for the full sample. Game Realism may thus not necessarily be a feature that affects the perceived importance of Ownership, gamers' W2P or their Participation in soccer-related activities from the perspective of more casual gamers. This may be due to several reasons: First, casual gamers typically seek short, enjoyable gaming sessions prioritizing quick, easy-to-learn gameplay and immediate fun over lifelike graphics (Manero *et al*., 2016). They often prefer games that are easy to pick up and play, which may focus on engaging mechanics or simple objectives rather than on Game Realism (Hodent, 2021). Second, casual gamers may be less interested in accurate environments like realistic soccer stadiums or players, which accurately resemble their real-world counterparts making detailed visuals less critical to their enjoyment. This indicates that casual gamers may be drawn to arcade-style SVGs because they offer quick, straightforward gameplay that does not require long-term commitment making them ideal for short gaming sessions. Accessibility may also play a role as casual gamers may not invest in the latest high-end consoles or gaming PCs that support realistic graphics. Casual gamers may therefore neither invest money in virtual items that make their experience more immersive, nor will they be driven by Game Realism to participate in real-life soccer activities.

The strong negative impact of Sports Context on W2P for the subgroup of hardcore gamers suggests that these gamers may be less willing to pay for extras in games which accurately resemble the sport they love. This observation aligns with Hamari's (2015) findings, which indicated that, while video game enjoyment is positively associated with continued game use, it is negatively related to the intention to purchase virtual goods. Hardcore gamers might feel that in-game purchases, especially cosmetic or non-essential items, detract from the realistic feel of the sport they love. They may want to experience the game as a true-to-life simulation rather than a gamified or monetized version with extra, sometimes unrealistic, add-ons. Hardcore gamers may also believe that adding paid elements introduces a pay-to-win dynamic, which can ruin the competitive balance of the game. This perception is particularly strong in games where purchasing better players, upgrades or gear might give paying gamers an unfair advantage over others, reducing the SVG's authenticity and fairness. Additionally, hardcore gamers often enjoy working hard to improve their skills, team or characters through

playing rather than purchasing upgrades. In-game purchases might feel like shortcuts, undermining the sense of achievement that comes from mastering the game over time.

Compared to the full sample, the results for the subgroup of hardcore gamers also illustrate that only the Relationships feature has an impact on Participation in soccer while Competing and Socializing, Escapism, Fantasy and Sports Context show no significant impact. Hardcore gamers are often impacted by the deep relationships they form within games, they engage in multiplayer modes or join online communities where they interact with others who share their passion. This sense of belonging and connection to a larger community can create a desire to replicate those experiences in real life, motivating them to participate in real-life sports.

Practical implications for sport organizations – ownership and W2P

For sports organizations like FIFA, focusing on SVGs with social features, multiplayer experiences and competitive gameplay is crucial. Monetization strategies should capitalize on gamers' desire to stand out and succeed in social and competitive contexts. With the additional focus on the discovery of rare items, sports organizations should integrate scarcity, exclusivity and discovery mechanics into their SVGs. By offering limited-edition items, dynamic marketplaces and rewards tied to exploration and achievement, they can significantly enhance gamers' desire to own virtual items and their W2P. This suggests that in practice, SVGs should generally consider the following concrete attributes:

(1) *Enhanced multiplayer experiences:* Sports organizations should prioritize the development of robust multiplayer modes. This includes both competitive and cooperative gameplay options, as these foster social interaction and competition among players.

(2) *Social integration:* Integrating social features like chat, friend lists and community-building tools can encourage gamers to connect with others. This could also include the ability to form teams, leagues or clubs within the game.

(3) *Seasonal and timed events:* Create seasonal events that revolve around competitive play, where gamers can earn unique rewards. Limited-time items are especially appealing, as they can highlight a gamer's achievements and status within the community. These items could include digital jerseys, unique player cards, signature moves or one-of-a-kind stadiums. The scarcity of these items will increase their perceived value, driving gamers to spend money to obtain them.

(4) *User-generated content:* Allow gamers to create and share custom content, such as team logos, stadium designs or highlight reels. This not only fosters creativity but also encourages community interaction, which can lead to higher engagement and spending.

(5) *Loot boxes or mystery packs:* Introduce loot boxes or mystery packs that contain a chance to discover rare items. These could be purchasable with in-game currency or real money. To appeal to ethical concerns, ensure that the odds of obtaining rare items are transparent and consider implementing a system where gamers can earn these boxes through competitive gameplay.

(6) *Bragging rights:* Encourage gamers to showcase their rare items in competitive and social settings. For example, gamers could display their rare items in leaderboards, profile badges or in social media integrations. This enhances the social value of owning rare items and can drive others to seek them out.

(7) *Community challenges for rare items:* Organize community-wide challenges where gamers must work together in teams to unlock rare items. This taps into the social aspect while also emphasizing the rarity of the rewards.

Practical implications for sport organizations – participation

To inspire greater Participation in real-life soccer, sports organizations should strategically develop or select SVGs that harness the power of immersion into a virtual sports environment by incorporating "Fantasy", "Escape" and "Sport Context" features. By creating immersive experiences that encourage gamers to connect with the sport on a deeper level, SVGs can effectively drive real-life soccer engagement. The following should be considered as key attributes of SVG driving Participation:

(1) *Immersive fantasy worlds:* Fantasy elements that go beyond traditional sports settings could include alternate reality leagues, fantastic stadiums or legendary players with superhuman abilities. By making the fantasy elements more engaging, gamers might be inspired to translate that enthusiasm into real-world soccer Participation.

(2) *Fantasy leagues and dream teams:* Introduce modes where gamers can create their own fantasy leagues or assemble dream teams with both real-world and fictional soccer players. The excitement of building and managing a fantasy team could drive gamers to engage with real-life soccer by emulating these teams or players.

(3) *Narrative-driven campaigns:* Develop story-driven campaigns where gamers can escape into a different life as a soccer star, coach or a club owner. By offering a deep narrative experience, gamers might be motivated to pursue their individual soccer dreams in the real world.

(4) *Virtual career mode:* Implement a career mode where gamers can experience the life of a soccer player, including training, managing media interactions and dealing with personal life challenges. The more immersive the escape, the more it could inspire gamers to participate in real-life soccer as a way to pursue their own version of a soccer career in real-life.

(5) *Teaching soccer through SVGs:* Use the fantasy and escape elements of the SVG as educational tools to teach real-world soccer knowledge, skills and strategies. Tutorials, challenges or training modes within the SVG could replicate real-life drills and tactics, providing gamers with knowledge and confidence to try them out in real soccer settings.

The integration of the recommended social and competitive attributes within SVGs has the potential to significantly enhance gamers' participation in real-life soccer activities. By fostering a deeper connection to the sport, these features not only enrich the gaming experience but also encourage active involvement in physical soccer, bridging the gap between virtual and real-world engagement.

Practical implications for sport organizations – considering generational cohorts and types of gamers

Sports organizations need to keep in mind that the preferences of different generational cohorts and types of gamers may differ. In other words, what's important for older casual gamers may differ for younger hardcore gamers who dedicate a substantial part of their day to playing SVGs. As shown in this study, hardcore gamers may be triggered by different SVG features to engage in commercial transactions or participate in real-life soccer activities. If this subgroup of gamers is motivated by Game Realism and Escapism to spend money on in-game purchases, this has several implications for the design, marketing and monetization of SVGs: Developers need to invest heavily in cutting-edge graphics, animations and physics engines to create a life-like experience. This includes realistic player movements, game physics and accurate representations of stadiums, weather conditions and crowds. Leveraging real-world sports data and statistics can enhance immersion. Features like live roster updates, player stats or even real-time game conditions can feed into the sense of realism. Securing licensing deals with real

leagues, teams and players becomes critical to create an authentic experience. This means gamers can play as their favorite athletes or teams and experience familiar settings. Incorporating story modes, where gamers can immerse themselves in the life of an athlete or manager, provides a form of Escapism by letting them experience the drama and emotional highs and lows of sports. However, in-game purchases should be handled carefully for the subgroup of hardcore gamers and need to align with the focus on Game Realism instead of cosmetic or purely gameplay-altering items which may adversely affect purchase intention. Items like real-life event tie-ins, detailed player and team customization and licensed gear from official teams and leagues can appeal to their passion for the sport. These purchases must align with real-world sports to resonate with this audience, as they prioritize staying true to the competitive nature of their favorite sports.

For SVGs targeting Generation Z and Generation Y, successful SVGs need to focus on creating rich, social experiences. Multiplayer functionality, in-game communities, cross-platform compatibility and social-driven rewards and achievements will be key to keeping younger players engaged. Social interaction should be woven into the fabric of the game, from how matches are played to how content is shared and how friends or communities interact. In doing so, SVGs can tap into these generations' desire for socializing, competition and collaboration, fostering in-game monetization and continuous participation in real-life activities.

These practical implications are essential for sports organizations to consider when designing or selecting SVGs. However, the findings of this study indicate that a universal approach may be ineffective, as various target audiences are motivated to engage in commercial transactions or participate in soccer based on different SVG features. Consequently, it is essential for sports organizations to segment their target audience and strategically develop SVGs that cater to the distinct needs of each group.

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About the authors

Joern Schlimm is Ph.D. Candidate at the Institute of Sport Economics and Sport Management at the German Sport University Cologne. His research explores the use of Web3, virtual environments, video gaming and artificial intelligence by sports organizations to enhance consumer engagement and experiences. Until July 2024, Joern served as Senior Manager at FIFA, the global governing body of soccer. Prior to his tenure at FIFA, he founded a sports strategy consultancy in Dubai. Joern's professional experience also includes roles at the Supreme Committee for Delivery & Legacy in Qatar and the consulting practices of KPMG and PwC across Europe and the Middle East. Joern Schlimm is the corresponding author and can be contacted at: joern_schlimm@yahoo.de

Sebastiano Mereu is Researcher for the Sports Business Research Academy, as well as Lecturer of Digital Marketing and Branding at BHMS Business and Hotel Management School and at Kalaidos University of Applied Sciences in Switzerland. His research interests include marketing, branding and viewer loyalty in the sports industry with an emphasis on digital marketing and communications channels. Dr Mereu also works as a Digital Marketing and Communications Specialist for the Swiss National Museum.

Christoph Breuer is Full professor of sport management at the German Sport University Cologne. Moreover, he is Vice President for resources, planning and appointments at German Sport University Cologne. From 2006 to 2011, he was simultaneously a Research Professor at the German Institute for Economic Research (DIW Berlin). His main research areas are sports organizations, the value of sport and sponsorship.